

APPENDIX 2

Sites surveyed for Hine's emerald dragonfly

* **Historic Site** (documented before 1963).

Life stages: A, adult; L, larva; E, exuviae; All, all stages. ?, unconfirmed sightings.

Behavior: TR, transient flight; FF, feeding flight; PE, perched; TP, territorial patrol; CP, copulation; OV, oviposition; TN, teneral adult; MF, maiden flight; ALL, all listed; ?, unknown; DOR, dead on road.

Years visited: years when species not observed in regular type; years present in **bold**.

Total hours (estimated staff hours/site): B (brief, 1-25); M (moderate, 26-200); E (extensive, over 200); ? (unknown).

State County	Site	Life stage(s)	Behavior	Year(s) visited	Total hours
Alabama Jackson	Robinson Springs	A	FF	1978 , 1993, 1994	B
Illinois Cook	Black Partridge Woods Nature Preserve	A	PE, TP, FF	1990, 1991, 1993 , 1995, 1999	E
	Bluff Springs Fen Nature Preserve			1990	B
	Burnham Woods Nature Preserve			1990	B
	Palos Park Woods			1990, 1999	B
	Sag Bridge			1992	B
	Willow Springs			1992	B
	Mt. Assissi			1992	B
	Eggers Grove			1990	B
	McMahon Woods	A	FF, TN, TP	1992, 1993, 1994, 1995, 1996, 1999	E
	Palos Fen Nature Preserve			1990, 1999	B
	Wampum Lake			1991, 1999	B
	Zander Woods			1999	B

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State County	Site	Life stage(s)	Behavior	Year(s) visited	Total hours
Illinois Du Page	Dragon Lake Forest Preserve			1990	B
	McDowell Grove Forest Preserve			1990	B
	West Branch Lower Forest Preserve			1990	B
	Waterfall Glen Forest Preserve, southwest corner	A	FF, PE	1990, 1991, 1992, 1994- 1999	E
	West Chicago Prairie Forest Preserve			1990	B
	West Du Page Woods			1990	B
Illinois Grundy	Goose Lake Prairie State Park			1999	B
Illinois Kankakee	Kankakee River State Park			1999	B
Illinois Kendall	Yorkville			1993	B
Illinois Lake	Chain O' Lakes State Park			1990	B
	DesPlaines River Wetland Demonstration Project			1999	B
	Spring Bluff Preserve			1999	B
	Van Patton Woods			1990, 1999	B
	Wadsworth Prairie			1999	B
Illinois McHenry	Alden Sedge Meadow			1990	B

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State County	Site	Life stage(s)	Behavior	Year(s) visited	Total hours
	Elizabeth Lake Nature Preserve			1990	B
	Lake-in-the-Hills Fen Nature Preserve			1990	B
	Oakwood Hills Fen Nature Preserve			1990	B
	Spring Grove Fen Nature Preserve			1990	B
Illinois Will	Black Road			1990	B
	Chicago Gravel Co. marsh			1992	B
	Crest Hill Park			1990, 1992	B
	DesPlaines State Conservation Area			1999	B
	Texaco Refinery			1992, 1995	B
	Houbolt Prairie			1990, 1992	B
	Houbolt Avenue			1992	B
	I & M Canal, Channahon			1992	B
	Joliet Army Training Area			1992	B
	Jackson Creek			1993, 1997	M
	Keepataw Forest Preserve	A, L	CP, FF, PE, TP, TR	1990, 1991, 1992, 1993, 1995-1999	E
	Lockport Prairie East			1990	B

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State County	Site	Life stage(s)	Behavior	Year(s) visited	Total hours
	Lockport Prairie Nature Preserve	A, L, E	ALL	1983, 1989- 1999	E
	Long Run Seep Nature Preserve	A	CP, FF, OV, PE, TP, TR	1990-1996, 1999	E
	Lower Rock Run Creek Preserve			1999	B
	Material Service Corporation, Yard 61, Middle Parcel	A, E	FF, TN, TP, PE, TR	1993-1999	E
	Material Service Corporation, Yard 61, North Parcel			1993	B
	Material Service Corporation, Yard 61, River South Parcel	A,E,L	ALL	1994 -1999	E
	Persico Property at Theodore & Gaylord Rds.			1992	B
	Rock Run Creek, North			1992, 1999	B
	Romeoville Prairie Nature Preserve	A	FF?, TR?	1989, 1990, 1995, 1999	E
	Romeoville Road, between Rt. 53 & New Ave.			1994, 1995	E
	Sidekick's Lounge	A	TR?	1994	B
	Uno-Ven Refinery	A	FF?	1995	B
	Vulcan Material Co., Yard 6			1990	M

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State County	Site	Life stage(s)	Behavior	Year(s) visited	Total hours
Indiana Lake	*Gary	A	?	1945	?
	Clark and Pine Nature Preserve			1995	B
	Clark and Pine East (Baaing Tract)			1995	B
	Clarke Junction			1995	B
Michigan Alger	Star Creek fen			1999	B
Michigan Alpena	Misery Bay	A	TR,TP	1999	B
Michigan Chippewa	Beavertail Creek - Prentiss Bay			1997	B
	Detour State Park			1997	B
	Drummond Island - Grand Marais Lake			1998	B
	Drummond Island - Isaacson Lake			1998, 1999	B
	Hendrie River			1991	B
	M-134 west from Detour Village toward the Cedarville			1999	B
Michigan Delta	Casey Creek			1991	B
	Garden Corners			1997	B
	Garden Creek #1			1991	B
	Garden Creek #2			1991	B
	Garden Creek #3			1991	B

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Sites surveyed for Hine's emerald dragonfly

State County	Site	Life stage(s)	Behavior	Year(s) visited	Total hours
	Garden Creek #4			1998	B
	Lake Michigan			1991	B
	Marsh Lake			1997	B
	Nahma			1997	B
	Squaw Creek			1991	B
	Valentine Creek #1			1991	B
	Valentine Creek #2			1991	B
Michigan Luce	Soo Junction Wetlands			1991	B
Michigan Mackinac	Ackland Road	A	FF, OV, TP, CP	1997-1999	B
	Big Knob fen			1997	B
	Bois Blanc Island - Snake Island Fens	A	TP, PE, FF	1999	B
	Brevort Lake Road	A	FF	1997 , 1998	B
	Carnegie Trail - Hiawatha Sportsman Club			1997	B
	Castle Rock Road	A	?	1999	B
	Castle Rock/I-75 swales			1999	B
	Cataract River to Needle Point			1997	B
	Charles Road Fens			1999	B
	Cranberry Lake Bog			1991	B
	Dinkey Line Road			1999	B

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Sites surveyed for Hine's emerald dragonfly

State County	Site	Life stage(s)	Behavior	Year(s) visited	Total hours
	East Naubinway swales			1997	B
	Fiborn Karst Preserve			1999	B
	Foley Creek Wetland	A?	TR	1997	B
	Great Lakes Transmission pipeline between Brevort Lake Road & East Lake Road, various sites			1999	B
	Hay Lake railroad grade			1997	B
	Heinz Lake			1998	B
	Hog Island Point			1991	B
	Horseshoe Bay	A	OV?	1997, 1998	B
	Horseshoe Bay, North Unit			1998	B
	I-75/ Castle Rock road area			1997	B
	I-75 East	A	FF, TP	1997, 1998, 1999, 2001	B
	I-75 West	A	TP	1997, 1998	B
	Inglesbe Swamp	A	TR	1997, 1998	B
	Kitchens Creek area	A?	?	1997	B
	M-134 from Cedarville east toward Detour Village			1999	B
	Marquette Island - Voight Bay			1998	B

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Sites surveyed for Hine's emerald dragonfly

State County	Site	Life stage(s)	Behavior	Year(s) visited	Total hours
	Marquette Island - Peck Bay			1998	B
	Marsh Lakes and Big Knob coastal fens			1997	B
	Martineau Creek SW	A	TP, TR	1998	B
	Mead Paper Company			1998	B
	Mismer Bay Wetlands			1997	B
	Point Aux Chenes River and adjacent wetlands				B
	Point LaBarbe			1999	B
	Portage Creek			1991	B
	Rabbit Back and Borrow Pit swales			1997	B
	St. Martin Point			1998	B
	Summerby Swamp	A	FF	1997, 1998	B
	Voight Bay			1999	B
	3116 Swamp			1998	B
Michigan Presque Isle	Ferron Point fens			1999	B
	Thompson's Harbor State Park - Loop 2 Fen	A	FF	1999	B
Michigan Schoolcraft	Bursaw Creek			1991	B
	Creighton River			1991	B
	Dead Horse Creek			1991	B

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Sites surveyed for Hine's emerald dragonfly

State County	Site	Life stage(s)	Behavior	Year(s) visited	Total hours
	Gulliver Lake to Seul Choix Point			1997	B
	Iron Creek			1991	B
	Mead Creek			1991	B
	Port Inland			1997	B
	Rainey Wildlife Area			1997	B
	Seney National Wildlife Refuge			1997	B
	Silver Creek			1991	B
	Smith Creek			1991	B
	Snyder Creek			1991	B
	Thompson area			1997	B
Minnesota Beltrami	Hwy 72, Red Lake			1998	B
Minnesota Dakota	Black Dog Preserve			1998	B
Minnesota Koochiching	Lost River			1998	B
Minnesota Lake of the Woods	Lost Lake Trail			1998	B
	Winter Lake Road			1998	B
Minnesota Roseau	Pine Creek			1998	B
	Sprague Creek			1998	B
Minnesota Scott	Savage Fen			1998	B

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Sites surveyed for Hine's emerald dragonfly

State County	Site	Life stage(s)	Behavior	Year(s) visited	Total hours
Missouri Carter	Chilton Creek Preserve			2001	B
	Peck Ranch Conservation Area - Pritchard Hollow			2001	B
	Pump Hollow			2001	B
Missouri Crawford	James Branch Hollow			2001	B
Missouri Dent	Bates Hollow Seep Fens			2001	B
	West Fork Huzzah Valley			2001	B
	Indian Trail Conservation Area			2001	B
Missouri Franklin	Little Indian Creek Conservation Area			2001	B
	Meramec State Park			2001	B
Missouri Iron	Barton Fen	A	FF, TP	2001	B
Missouri Laclede	Flagmire Hollow			2001	B
Missouri Phelps	Kaintuck Hollow			2001	B
	Apple Tree Farm			2001	B
Missouri Reynolds	Clearwater Conservation Area			2001	B
	Nancy B Altvater Grasshopper Hollow	A, All (2001)	TR, All (2001)	1999, 2000, 2001, 2001	M

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Sites surveyed for Hine's emerald dragonfly

State County	Site	Life stage(s)	Behavior	Year(s) visited	Total hours
	Fletcher Landing Strip Fens			2001	B
	Husman Fen Natural Area			2001	B
	Ruble Meadow	A	FF	2001	B
	Swamp Hollow			2001	B
Missouri Ripley	Blue Flag Fen			2001	B
	Little Black Conservation Area			2001	B
	Mud Branch Fen 1			2001	B
	Mud Branch Fen 2			2001	B
	Mud Branch Fen 3			2001	B
	Mud Branch Fen 4			2001	B
	Wells Branch Fen			2001	B
Missouri Shannon	Shut-In-Mountain Fen			2001	B
Missouri St. Francois	St. Francois State Park			2001	B
Missouri Washington	Cruise Meadow			2001	B
Missouri Wayne	Haite's Ford Fen			2001	B
Ohio Fulton	Fulton Pond, Ohio Turnpike & Co. Rd. 3			1994	B
Ohio Hancock	Blanchard River at Twp. Rd. 166			1994	B

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Sites surveyed for Hine's emerald dragonfly

State County	Site	Life stage(s)	Behavior	Year(s) visited	Total hours
	Van Buren State Park, East Marsh			1994	B
Ohio Henry	Ditch off Twp. Rd. 2			1994	B
Ohio Huron	Willard Marsh Wildlife Area			1994	B
Ohio Logan	*Indian Lake, North Fork Great Miami River Channel W of Rt. 117	A	PE	1929, 1930, 1996	M
Ohio Lucas	Irwin Prairie State Nature Preserve			1994	B
	Lou Campbell Nature Preserve			1994	B
	*Oak Openings Preserve Metropark, old RR bed between Wilkins Rd. & Hwy. 64, Wintergreen Lake	A	FF, OV?, PE	1952, 1953, 1956, 1958 - 1961 , 1994, 1996	E
	Toledo Express Airport			1994	B
Ohio Putnam	Pond at Blanchard River & SR15			1994	B
	Riley Creek upstream from bridge on Twp. Rd. K-6			1994	B
Ohio Seneca	Mohawk Lake: Stream W & between Honey Creek and Mohawk Lake			1994	B

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Sites surveyed for Hine's emerald dragonfly

State County	Site	Life stage(s)	Behavior	Year(s) visited	Total hours
	Springville Marsh State Nature Preserve			1994	B
Ohio Williams	*Bridgewater Township Pond	A	OV?	1956	?
	Lake La-Su-An Wildlife Area			1992, 1994, 1996	B
	*Mud Lake Bog Nature Preserve	A	PE	1949 , 1992, 1993, 1994, 1995, 1996	M
	Pond at Co. Rds. 8 & S			1994	B
Ohio Wood	Tow Path, Maumee River			1994	B
	Weir Rapids on the Maumee River			1994	B
Wisconsin Brown	Green Bay Shores Wildlife Area, Sensiba Unit			2000	B
Wisconsin Calumet	Killsnake Wildlife Area			2001	B
Wisconsin Dodge	Waterloo Fen & Springs			1990	B
Wisconsin Door	Ahnapee River and Silver Creek, south of State Highway 57			2001	B
	Appleport Lane, Sand Lane			1998	B
	Arbter Lake	A	OV	1990, 1997	B

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Sites surveyed for Hine's emerald dragonfly

State County	Site	Life stage(s)	Behavior	Year(s) visited	Total hours
	Baileys Harbor Twp., cedar swamp N of Co. Rd. Q			1992	B
	Baileys Harbor Twp., marsh N of Co. Rd. Q	A	FF, TR	1992	B
	Bailey's Harbor Twp., along Co. Rd. Q	A	TR	1997-1999	M
	Baudhin Creek			1990	B
	Big Marsh, Washington Island	A	OV, TP	2000	B
	Button Marsh	A		1998	B
	Clark Lake			1998	B
	Coffee Swamp, Washington Island			2000	B
	Cunningham Swamp			2001	B
	Dolan's Creek			1990	B
	Duvall Swamp			1998	B
	Ephraim Swamp	A	FF, TN	1998, 2000, 2001	B
	Forestville Pond, upper reaches			1998	B
	Frog Station, Kewaunee River State Fish & Wildlife Area			1998	B
	Gardner Swamp Wildlife Area			1990, 2001	B
	Garret Bay			1998	B

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Sites surveyed for Hine's emerald dragonfly

State County	Site	Life stage(s)	Behavior	Year(s) visited	Total hours
	Gravel Pits, Mud Lake West			1998	B
	Gregorville, Black Ash Swamp			1998	B
	Hibbard Creek			1990, 2001	B
	Kangaroo Lake North			1995	B
	Kellner Fen	A	TP	2001	B
	Kewaunee River Marsh			1998	B
	Keyes Creek			1990	B
	Lake Lane			2001	B
	Lake Michigan Drive			1998	B
	Little Lake, Washington Island			2000	B
	Logan Creek			1990, 1998	B
	Lower Gardner Swamp State Wildlife Area			1998	B
	Lower Reiboldt's Creek			1998	B
	Marshall's Point			1990	B
	Meridian Co. Park #1	A?		1995	B
	Meridian Co. Park #2			1995	B
	Mink River (Lower)	A	TR	1987, 1989- 1991, 1995, 2001	M
	Mink River (Upper)	A, A	FF, TN (2001)	1998, 1999, 2001	B

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Sites surveyed for Hine's emerald dragonfly

State County	Site	Life stage(s)	Behavior	Year(s) visited	Total hours
	Mud Lake "North" (Grove Road)	A		2001	B
	Mud Lake "North" (Pioneer Rd.)	A	FF	1992	B
	Mud Lake "North" (Lime Kiln Rd.)	A, E, L	CP, OV, FF, TR	1990, 1991, 1992, 1993, 1995 - 1999	E
	Mud Lake "South" (Mystery Creek)	A	CP, FF, TN, TR,	1990, 1991, 1992 (B), 1993, 1994, 1995, 1996, 2001(B)	E
	North Bay	A, L	FF, OV	1995-1999	E
	North Kewaunee River State Fish & Wildlife Area			1998	B
	North Point Beach State Forest			1998	B
	Pickerel Lake			1992	B
	Piel Creek	A	FF, TR, PE	1990, 1991, 1995, 1998, 2001 (B)	M
	Sherwood Point			2001	B
	Shivering Sands #1			1995	B
	Shivering Sands #2	A?		1995	B
	South Kewaunee River State Fish & Wildlife Area			1998	B

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Sites surveyed for Hine's emerald dragonfly

State County	Site	Life stage(s)	Behavior	Year(s) visited	Total hours
	South Point Beach State Forest			1998	B
	Spring Road and Access road off Spring Road	A	PE, DOR	2001	B
	Stony Creek, near Carnot			1998	B
	Stony Creek Swamp			1998	B
	Strawberry Creek			2001	B
	Sturgeon Bay Ship Canal			1998, 2001	B
	The Ridges Sanctuary	A, E, L	ALL	1992, 1995 - 1999	E
	Three Springs Creek	A	FF, TR, OV	1990, 1991, 1995	E
	Thorp Pond			1995, 1998	B
	Toft Point	A	FF	1991, 1995	B
	Upper North Bay			1998	B
	White Cliff Fen	A	PE	2001	B
Wisconsin Fond du Lac	Mauthe Lake			1990, 2001	B
Wisconsin Kewaunee	Ahnapee River Wetlands (near Algoma)			2001	B
	Alaska Lakes			2000	B
	Black Ash Swamp	A	TR/FF	2001	B
	Duvall Swamp			1990, 2001	B
	East Twin River			2001	B

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State County	Site	Life stage(s)	Behavior	Year(s) visited	Total hours
	Kewaunee Fish and Wildlife Area, Little Scareboro Unit			2000, 2001	B
	Krohn Lake			2000	B
	Three Mile Creek, mouth			2000	B
Wisconsin Manitowoc	Cleveland Hardwood Swamp			2000	B
	Fisher Creek			2000	B
Wisconsin Manitowoc	Manitowoc School Forest			2001	B
	Point Beach State Forest			1990	B
	Point Beach State Park, Molash Creek			2000	B
	Point Beach State Park, South Dunes			2000, 2001	B
	Point Beach State Park, West Dunes			2000, 2001	B
	West Twin River			2000	B
	Woodland Dunes			2001	B
Wisconsin Marinette	Ansul Patterned Dunes Area			2000	B
	Green Bay Shores State Wildlife Area, Pestigo Harbor Unit			2000	B
	Lake Mary			1990	B
	Lake Noquebay			1990, 2000	B

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Sites surveyed for Hine's emerald dragonfly

State County	Site	Life stage(s)	Behavior	Year(s) visited	Total hours
	Spur Lake			1990	B
Wisconsin Oconto	Charles Pond			1990	B
Wisconsin Ozaukee	Cedarburg Bog	A	FF, TN, OV, TP, PE	1999, 2001	M
	County Trunk I and State Highway 33			2001	B
Wisconsin Sheboygan	Kohler-Andrae State Park			2000, 2001	B
	Muehl Springs			2000	B
	Sheboygan Marsh, County Park			2000	B
	Sheboygan Marsh, National Wildlife Area			2001	B
Wisconsin Walworth	Bluff Creek Fen & Springs			1990	B
	Clover Valley Fen			1990	B
	Lulu Lake Fen			1990	B
	Pickerel Lake Fen			1990	B
Wisconsin Waukesha	Genesee Oak Opening & Fen			1990	B
	Ottawa Lake Fen			1990	B
Wisconsin Washington	Allenton Wildlife Area			2001	B

APPENDIX 2 Continued**Sites surveyed for Hine's emerald dragonfly**

State County	Site	Life stage(s)	Behavior	Year(s) visited	Total hours
CANADA Ontario Bruce	Dorcas Bay, Singing Sands fens, Bruce Peninsula Park			1999	B
Manitoulin	Michael Bay			1999	B
	Misery Bay Provincial Nature Reserve			1999	B